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The Role of Procalcitonin in Acinetobacter Infections in Intensive Care: May be Nothing!

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Objectives: Procalcitonin (PC) is a prohormone secreted from thyroid gland. PC level is increased in severe bacterial infections as above the 0.5 ng/ml, in acinetobacter infections may be not. Some studies offered that PC levels may be used stopping the antibiotherapy, however some of that offered for starting the antibiotherapy. Aim of this study, PC levels are used or not as a predictor for acinebacter infections.

Methods: This retrospective study was created as screening the microbiological culture between 2014-2018 in patients with hospitalized in medical intensive care unit. 76 patients were included the study, only acinetobacter were growth in their culture. 48 hours before culture, culture day and after 48 hours from culture PC, CRP and WBC levels were recorded. Patients were divided into 4 groups according to PC levels. Group 1 had PC level lower than 0.5 ng/ml, group 2 had 0.5-2 ng/ml, group 3 had 2.1-10 ng/ml and group 4 had above the 10.1 ng/ml.

Results: 47 male and 29 female were included the study. Mean age was 58.3 ± 18.9 . PC levels were asseyed lower than the 0.5 ng/ml in 25 patients before 48 hours from culture, 30 patients in culture day and 23 patients after 48 hours from culture. 12 of 16 patients with started ampicic colistine before culture were exitus. 21 of 34 patients with started colistine according to culture were exitus and 20 of 26 patients with not started the colistine were exitus. 57 patients had comorbidity and 19 patients were not. There was no difference in terms of early mortality ratio in this patients. There were positive correlations between CRP and PC levels and negative correlation between WBC and CRP-PC levels ($p < 0.05$) in culture day. Negative correlation was detected between CRP- PC levels in culture day and WBC levels with 48 hours before culture ($p < 0.05$).

Conclusion: Despite a poor clinical course in the critically ill patient, if the PC level is low but WBC is increasing acinetobacter infection should be considered. WBC may be a better marker than PC for predicting of acinetobacter infection. Therefore, acitenetobacter infection with high mortality may be treated earlier.

Keywords: Procalcitonin, acinetobacter, intensive care